

ANNEX
BETWEEN
THE NATIONAL AERONAUTICS AND SPACE ADMINISTRATION,
NASA LYNDON B. JOHNSON SPACE CENTER AND
INTUITIVE MACHINES
UNDER SPACE ACT UMBRELLA AGREEMENT
NO. 34137, DATED [UMBRELLA AGREEMENT SIGNED DATE] (ANNEX
NUMBER 01).

ARTICLE 1. PURPOSE

This Annex shall be for the purpose of providing expert services on a reimbursable basis to Intuitive Machines, LLC (hereinafter “IM” or “Partner”) in support of IM’s development of lunar robotic technologies and capabilities. NASA will provide expertise to assist the Partner with propulsion testing of the Partner vehicle’s engine hardware, propulsion system analysis, and mission design integration for the partner’s selected mission architecture, in support of NASA’s objective to deliver science and technology to the lunar surface in preparation for future human missions to the moon. Some of this work will be performed at the Partner facility, located at 3700 Bay Area Blvd, Houston, TX 77058. While operating at the Partner facility, NASA employees shall only engage in reimbursable tasks pursuant to this Agreement and shall remain under the supervisory control of NASA. Conducting some of these tasks at the Partner facility will allow NASA employees to better collaborate with IM staff as necessary to more effectively complete such tasks and help improve NASA’s work flows and processes resulting from exposure to a commercial workplace.

ARTICLE 2. RESPONSIBILITIES

NASA JSC will use reasonable efforts to perform the following tasks, not to exceed 800 hours of labor:

1. Assist with cryogenic engine testing and verification at the partner’s Ellington Field facility to include (but not limited to) engine hardware preparation, test article component build up / tear down, field test support, test rig preparation and checkout, test data evaluation, instrumentation, imagery processing / analysis, and lab testing. The testing support will not exceed a 4 months duration unless an extension is mutually agreed upon by both NASA and IM.
2. Support the design and optimization of trajectories in the Earth-Moon system using Copernicus trajectory analysis software. This will include (but is not limited to) the integration and setup of Copernicus for designing and analyzing the partner’s specific lunar mission architecture, optimization of variable thrust finite burn maneuvers, and burn planning for nominal and off-nominal scenarios. NASA will also help the partner with integration between Copernicus and the General Mission Analysis Tool (GMAT).

3. Participate in recurring team meetings and technical interchange discussions.
4. Enable no more than four (4) NASA employees to perform agreed upon tasks at the partner's facility. NASA employees shall follow COVID-19 guidelines, as documented on JSC COVID-19 Guidance Memo, Revision 011221.

Partner will use reasonable efforts to:

1. Provide insight and relevant data related to lander vehicle design, requirements, mission architecture, reference trajectories (e.g. Copernicus idecks), test operations, analysis tools, and various mathematical models that are necessary inputs for the propulsion testing and mission design integration to be performed in collaboration with NASA.
2. Participate in recurring team meetings and technical interchange discussions.
3. Provide necessary workspace to enable one or more NASA employees to complete agreed upon tasks at the Partner's facility.
4. Follow COVID-19 guidelines, as documented on JSC COVID-19 Guidance Memo, Revision 011221, when NASA employees are at the Partner's facility.

ARTICLE 3. SCHEDULE AND MILESTONES

The planned major milestones for the activities for this Annex defined in the "Responsibilities" clause are as follows:

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| 1. NASA and Partner will participate in a "Kick-off" Technical Interchange Meeting (TIM) | 1 week after the Effective Date of the Annex |
| 2. Partner will provide all necessary inputs for the propulsion testing and trajectory analysis | 2 weeks after the Effective Date of the Annex |
| 3. NASA and the partner will initiate the nominal and off-nominal trajectory analysis | Upon receipt of all necessary inputs |
| 4. NASA and the partner will complete the Copernicus nominal and off-nominal trajectory analysis | 12 weeks after the start of the analysis |
| 5. NASA and the partner will complete the GMAT-to-Copernicus test and verification activities | 14 weeks after the start of the analysis |
| 6. NASA will initiate its portion of the cryogenic engine testing and verification at the partner's Ellington Field facility | Upon receipt of all necessary inputs |
| 7. NASA will complete its portion of the cryogenic engine testing and verification at the partner's Ellington Field facility | 16 weeks after the Effective Date of the Annex |

ARTICLE 4. FINANCIAL OBLIGATIONS

A. Partner agrees to reimburse NASA an estimated cost of \$71,942.74 for NASA to carry out its responsibilities under this Annex. Partner shall make payment in advance of initiation of NASA's efforts on behalf of the Partner.

Each payment shall be marked with JSC, SAA-EA-21-34138, Annex number 1. See Umbrella Agreement for payment instructions.

B. NASA will not provide services or incur costs beyond the current funding. Although NASA has made a good faith effort to accurately estimate its costs, it is understood that NASA provides no assurance that the proposed effort under this Annex will be accomplished for the estimated amount. Should the effort cost more than the estimate, Partner will be advised by NASA as soon as possible. Partner shall pay all costs incurred and have the option of canceling the remaining effort, or providing additional funding in order to continue the proposed effort under the revised estimate. Should this Annex be terminated, or the effort completed at a cost less than the agreed-to estimated cost, NASA shall account for any unspent funds within one year after completion of all effort under this Annex, and promptly thereafter, at Partner's option return any unspent funds to Partner or apply any such unspent funds to other activities under the Umbrella Agreement. Return of unspent funds will be processed via Electronic Funds Transfer (EFT) in accordance with 31 C.F.R. Part 208 and, upon request by NASA, Partner agrees to complete the Automated Clearing House (ACH) Vendor/Miscellaneous Payment Enrollment Form (SF 3881).

ARTICLE 5. INTELLECTUAL PROPERTY RIGHTS - DATA RIGHTS

A. Data produced under this Annex which is subject to paragraph C. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement will be protected for the period of five years from the date the data is first produced.

B. Under paragraph H. of the Intellectual Property Rights - Data Rights Article of the Umbrella Agreement, Disclosing Party provides the following Data to Receiving Party. The lists below may not be comprehensive, are subject to change, and do not supersede any restrictive notice on the Data provided.

1. Background Data:

The Disclosing Party's Background Data, if any, will be identified in a separate technical document.

2. Third Party Proprietary Data:

The Disclosing Party's Third Party Proprietary Data, if any, will be identified in a separate technical document.

3. Controlled Government Data:

The Disclosing Party's Controlled Government Data, if any, will be identified in a separate technical document.

4. The following software and related Data will be provided to Partner under a separate Software Usage Agreement: None

ARTICLE 6. TERM OF ANNEX

This Annex becomes effective upon the date of the last signature below (Effective Date) and shall remain in effect until the completion of all obligations of both Parties hereto, or 1 Year(s) from the Effective Date, whichever comes first, unless such term exceeds the duration of the Umbrella Agreement. The term of this Annex shall not exceed the term of the Umbrella Agreement. The Annex automatically expires upon the expiration of the Umbrella Agreement.

ARTICLE 7. RIGHT TO TERMINATE

Either Party may unilaterally terminate this Annex by providing thirty (30) calendar days written notice to the other Party.

ARTICLE 9. POINTS OF CONTACT

The following personnel are designated as the Points of Contact between the Parties in the performance of this Agreement.

Management Points of Contact

NASA Lyndon B. Johnson Space Center
John Gowan
Associate Division Chief, Aerospace &
Flight Mechanics Division (EG)
2101 NASA Parkway
Houston, TX 77058
281-483-1923
john.w.gowan@nasa.gov

Intuitive Machines
Steve Labbe
Director of Engineering
3700 Bay Area Blvd, Suite 100
Houston, TX 77058
832-530-1939
slabbe@intuitivemachines.com

Technical Points of Contact

NASA Lyndon B. Johnson Space Center
John Gowan
Associate Division Chief, Aerospace &
Flight Mechanics Division (EG)
2101 NASA Parkway
Houston, TX 77058
281-483-1923
john.w.gowan@nasa.gov

Intuitive Machines
Steve Labbe
Director of Engineering
3700 Bay Area Blvd, Suite 100
Houston, TX 77058
832-530-1939
slabbe@intuitivemachines.com

ARTICLE 10. MODIFICATIONS

Any modification to this Annex shall be executed, in writing, and signed by an authorized


representative of NASA and the Partner. Modification of an Annex does not modify the terms of the Umbrella Agreement.

ARTICLE 11. SIGNATORY AUTHORITY

The signatories to this Agreement covenant and warrant that they have authority to execute this Agreement. By signing below, the undersigned agrees to the above terms and conditions.

NATIONAL AERONAUTICS AND Intuitive Machines
SPACE ADMINISTRATION
LYNDON B. JOHNSON SPACE
CENTER

BY: _____
Julie Kramer White
Director of Engineering
Johnson Space Center

BY:  _____
Stephen Altemus
President & CEO

DATE: _____

DATE: 5/19/2021